

CLAIMS

1. (PREVIOUSLY PRESENTED) A method for indicating available modifications to a geometric object in a computer drawing program, comprising:

accepting, from a user, placement of a user-selected three-dimensional (3D) geometric object in a computer drawing program; and

simultaneously displaying a first oriented 3D grip glyph directly on the 3D geometric object and a second oriented 3D grip glyph directly on the 3D geometric object, wherein the first oriented 3D grip glyph and the second oriented 3D grip glyph provide direct visual indications of valid movement directions during direct manipulation of the three-dimensional geometric object using the grip glyphs.

2. (PREVIOUSLY PRESENTED) The method of claim 1 wherein the valid movement directions are constraints on permissible actions.

3. (ORIGINAL) The method of claim 1 wherein the first oriented three-dimensional glyph is a grip that has a defined position and an active area within which a pointing device will "snap" to that position.

4. (ORIGINAL) The method of claim 1 wherein an orientation and direction of the first oriented three-dimensional glyph indicate how cursor movement will be constrained.

5. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the second oriented three-dimensional grip glyph is differentiable from the first oriented three-dimensional grip glyph.

6. (ORIGINAL) The method of claim 1 wherein the direct manipulation occurs through user interaction with the computer drawing program.

7. (ORIGINAL) The method of claim 1 further comprising manipulating the three-dimensional object based on direct manipulation of the first oriented three-dimensional glyph in the valid movement direction.

8. (PREVIOUSLY PRESENTED) A system for indicating available modifications to a geometric object in a computer drawing program comprising:

- (a) a computer system having a memory and a data storage device coupled thereto;
- (b) a drawing program executing on the computer system, the drawing program

configured to:

- (i) accept, from a user, placement of a user-selected three-dimensional geometric (3D) object; and
- (ii) simultaneously display a first oriented 3D grip glyph directly on the 3D geometric object and a second oriented 3D grip glyph directly on the 3D geometric object, wherein the first oriented 3D grip glyph and the second oriented 3D grip glyph provide

provides direct visual indications of valid movement directions during direct manipulation of the three-dimensional geometric object using the grip glyphs.

9. (PREVIOUSLY PRESENTED) The system of claim 8 wherein the valid movement directions are a constraint on permissible actions.
10. (ORIGINAL) The system of claim 8 wherein the first oriented three-dimensional glyph is a grip that has a defined position and an active area within which a pointing device will "snap" to that position.
11. (ORIGINAL) The system of claim 8 wherein an orientation and direction of the first oriented three-dimensional glyph indicate how cursor movement will be constrained.
12. (PREVIOUSLY PRESENTED) The system of claim 8 wherein the second oriented three-dimensional glyph is differentiable from the first oriented three-dimensional glyph.
13. (ORIGINAL) The system of claim 8 wherein the direct manipulation occurs through user interaction with the computer drawing program.
14. (ORIGINAL) The system of claim 8 wherein the drawing program is further configured to manipulate the three-dimensional object based on direct manipulation of the first oriented three-dimensional glyph in the valid movement direction.

15. (PREVIOUSLY PRESENTED) An article of manufacture comprising a program storage medium readable by a computer and embodying one or more instructions executable by the computer to perform a method for indicating available modifications to a geometric object in a computer drawing program, the method comprising:

accepting, from a user, placement of a user-selected three-dimensional (3D) geometric object; and

simultaneously displaying a first oriented 3D grip glyph directly on the 3D geometric object and a second oriented 3D grip glyph directly on the 3D geometric object, wherein the first oriented 3D grip glyph and the second oriented 3D grip glyph provide direct visual indications of valid movement directions during direct manipulation of the three-dimensional geometric object using the grip glyphs.

16. (PREVIOUSLY PRESENTED) The article of manufacture of claim 15 wherein the valid movement directions are a constraint on permissible actions.

17. (ORIGINAL) The article of manufacture of claim 15 wherein the first oriented three-dimensional glyph is a grip that has a defined position and an active area within which a pointing device will "snap" to that position.

18. (ORIGINAL) The article of manufacture of claim 15 wherein an orientation and direction of the first oriented three-dimensional glyph indicate how cursor movement will be constrained.

19. (PREVIOUSLY PRESENTED) The article of manufacture of claim 15, wherein the second oriented three-dimensional glyph is differentiable from the first oriented three-dimensional glyph.

20. (ORIGINAL) The article of manufacture of claim 15 wherein the direct manipulation occurs through user interaction with the computer graphics program.

21. (ORIGINAL) The article of manufacture of claim 15 wherein the method further comprises manipulating the three-dimensional object based on direct manipulation of the first oriented three-dimensional glyph in the valid movement direction.